TECHNICAL MEMORANDUM

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ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TO: Cindy Ryals, Project Manager/Toxicologist, DEQ NWR Cleanup Section

FROM: Jay Bower, P.E., Jon Polka, E.I.T.

DATE: January 28, 2015

RE: PHASE II REMEDIAL INVESTIGATION
PROPOSED WORK PLAN FOR POLYCHLORINATED BIPHENYL
SOURCE AREAS AND ADDITIONAL SAMPLING

INTRODUCTION

This technical memorandum describes a proposed work plan to address polychlorinated biphenyls (PCBs) that have been detected in potential PCB source areas at the PCC Structurals, Inc. (PCC) Large Parts Campus (LPC), located at 4600 Southeast Harney Drive, in Portland, Oregon. These detections were identified during the ongoing remedial investigation, being conducted under a Voluntary Cleanup Program Agreement between Oregon Department of Environmental Quality (DEQ) and PCC, as described below. Because there were detections of total PCBs in excess of 50 milligrams per kilogram in a subset of the samples, this work will be coordinated with and overseen by Region 10 of the U. S. Environmental Protection Agency (EPA) under the Toxic Substances Control Act program and DEQ.

BACKGROUND

Two rounds of catch basin sediment sampling and one round of stormwater sampling were conducted in 2014 to assess potential sources of PCBs at the LPC. Technical memoranda previously submitted to DEQ (Landau Associates 2014b,c) described the general scope and approach of these sampling activities and their results. The strategy was to sample sediment and stormwater at selected storm drain system catch basins and manholes to identify areas of the LPC where PCB sources may exist. For these events, DEQ provided a scoping criterion of 200 micrograms per kilogram (µg/kg) total PCBs for catch basin sediment (Landau Associates 2014a; Ryals 2014) to identify areas that should be investigated for potential sources. A discussion of the results of these sampling events is discussed in the work plan (Landau Associates 2014b).

The highest concentrations of PCB in catch basin sediment were observed in samples collected from the areas north of the Steel Building, near the northeast corner of the Steel Building, and near the northwest corner of the Titanium Building. These results led to a PCB source investigation, which was conducted in the fall of 2014, and consisted of collection and analyses of 49 debris and 3 wipe samples across 7 delineated areas within the PCC (Landau Associates 2014d). This investigation aimed to further identify the sources of PCB contamination.

The aforementioned scoping criterion of 200 µg/kg was also used for the PCB source investigation. Total PCB concentrations above the criterion were found in four of the seven sampling areas. These four areas are identified as Areas A through D and are near transformers and/or former oil storage locations, which have historically contained PCBs (Landau Associates 2014d). The following scope and approach is based on the findings of the PCB source investigation.

SCOPE AND APPROACH

The proposed work for addressing PCBs in Areas A through D (shown on Figure 1) is explained below. For each area, a brief summary of the PCB concentrations found is presented, followed by proposed actions.

Area A

Figure 2 shows nine locations in Area A with total PCB concentrations greater than 200 µg/kg and one wipe sample with a low PCB concentration (8.6 µg/kg). All of the detected compounds in Area A were of the PCB mixture Aroclor 1254. It is important to note, from the perspective of potential PCB sources to stormwater, that Area A drains to the sanitary sewer system and not the stormwater system.

Proposed Actions

Figure 3 illustrates the proposed source control work for Area A, which includes the following:

- Sweep paved areas to remove loose soil/debris and drum for disposal characterization. After sweeping, pressure-wash the paved areas and then collect water and debris from sump in Catch Basin Z (CB-Z).
- Remove soil that is above the retaining wall to prevent future sloughing and potential transport with stormwater runoff into the sanitary sewer system and drum for disposal characterization. This soil appeared to be heaped atop existing grade. A photograph of this soil is shown on Figure 4.
- Remove loose soil and debris located on the concrete underneath the stairs and drum for disposal characterization. If possible, remove any soil above the retaining wall that would likely slough onto the concrete in this location (a westward continuation of the soil bank shown in Figure 4). A photograph of the loose soil and debris on the concrete pad beneath the staircase is shown on Figure 5.

Area B

Figure 6 shows three locations in Area B with total PCB concentrations greater than 200 µg/kg (all Aroclor 1254) and one lower level detection of 83 µg/kg (Aroclor 1260).

Proposed Actions

Proposed actions in Area B aim to further characterize PCB contamination through discrete soil sampling to better delineate the areal extent and depth of contamination. Figure 7 shows the sampling locations for both the western and eastern portions of Area B. Proposed actions include the following:

- Western Portion: Grid and collect samples from eight locations at the surface and a depth of 6 to 8 inches below grade, for a total of 16 samples. This will help characterize the areal PCB distribution and determine whether the contamination is surficial. Figures 8 and 9 show eastern and western halves of the transformer platform located above this proposed sampling location.
- Eastern Portion: Construction of new cooling towers is planned in this area, which will likely involve significant soil excavation and subsequent characterization. Therefore, it is recommended to collect samples from 6 evenly spaced locations (e.g., 2 by 3 grid pattern) at the toe of the slope (adjacent to the existing site pavement to the south of this portion) at the surface and at a depth of 2 feet, for a total of 12 samples. Figure 10 is an annotated photograph of this portion.

Area C

Figure 11 shows eight locations in Area C with total PCB concentrations greater than 200 µg/kg and two wipe samples with no detections of PCBs. Aroclor 1254 and 1260 were the detected PCB mixtures in the debris samples. An interim action was conducted in this area to remove loose debris; the debris was retained on site (Bower 2015) and will be managed along with material derived during execution of the subject scope.

Proposed Actions

- Remove any re-accumulated debris (since the interim removal) and drum. Debris removal should be done in dry conditions via sweeping. Commercial sweepers may be used for easily accessible areas and hand brooms may be required for less accessible areas. Stored materials will be moved in order to ensure thorough cleaning.
- PCC intends to fill in depressions adjacent to the building with asphalt. This will be done such that the surface slopes away from the building, essentially eliminating the current areas of debris accumulation. Figure 12 shows Area C and the proposed actions, while Figures 13 through 15 are photographs of the building with the debris and depressions shown.

Area D

Figure 16 shows PCB sampling results in Area D. One location, located along a hillside embankment, exceeded the threshold PCB concentration of 200 µg/kg and was reported as Aroclor 1254.

Proposed Actions

- Grid a portion of Area D, where PCB detection exceeded the threshold, and collect 4 discrete samples at the surface and at a depth of 6 to 8 inches for PCB analysis, for a total of 8

samples. This will help characterize the areal PCB distribution and to evaluate whether the contamination is surficial. The sampling location within Area D is shown on Figure 17 and a photograph of the hillside embankment is shown on Figure 18.

Soil Samples

Soil Samples will be collected from unpaved areas using a clean stainless-steel spoon. The samples will be homogenized in a clean stainless-steel bowl using a clean stainless-steel spoon, placed into an 8-ounce glass sample jar, labeled, and stored on ice. Disposable sampling equipment (e.g., brooms, etc.) will be discarded after each use. Other sampling equipment such as stainless-steel spoons will be decontaminated between each sample location.

LABORATORY ANALYSIS

Soil samples will be submitted to TestAmerica Laboratories of Portland, Oregon under standard chain-of-custody procedures. Samples will be analyzed for PCB Aroclors by EPA Method 8082.

SCHEDULE

Following receipt of DEQ approval on the proposed approach, we understand that DEQ will coordinate with EPA on review, modification, and approval of the work plan. PCC will work with DEQ to identify a sampling date that is acceptable to both parties.

JDP/JPB/bar

REFERENCES

Bower, J. 2015. Email message from Jay Bower, P.E., Landau Associates, to Cindy Ryals, Project Manager/Toxicologist, DEQ. Re: *Follow up on telephone call today*. January 9.

Landau Associates. 2014a. Technical Memorandum*: Phase II Remedial Investigation Upland PCB Source Investigation*. From Jay Bower, P.E., and Colette Gaona, to Cindy Ryals, Oregon Department of Environmental Quality Northwest Cleanup Section. September 15.

Landau Associates. 2014b. Technical Memorandum: *Phase II Remedial Investigation Additional Sediment Sampling of Johnson Creek*. From Jay Bower, P.E., to Cindy Ryals, Oregon Department of Environmental Quality Northwest Cleanup Section. September 29.

Landau Associates. 2014c. Technical Memorandum: *Phase II Remedial Investigation Supplemental Stormwater and Catch Basin Sampling*. From Jay Bower, P.E., to Scott Manzano, Oregon Department of Environmental Quality Northwest Cleanup Section. October 22.

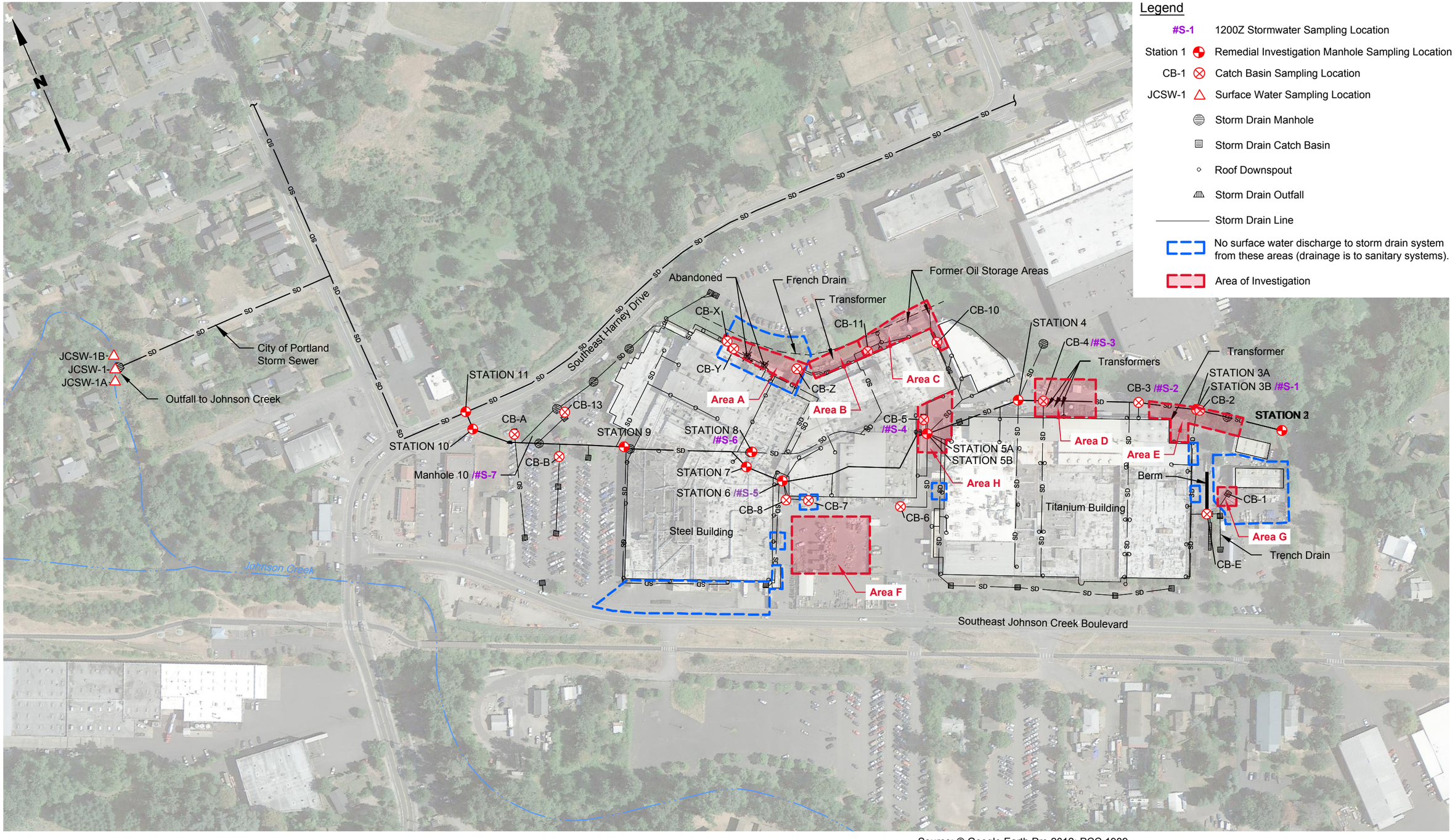
Landau Associates. 2014d. Technical Memorandum: *Phase II Remedial Investigation October 2014 Upland PCB Source Investigation Large Page Parts Campus, PCC Structurals, Inc. DEQ No. LQVC-*

NWR-08-05. From Jay Bower, P.E. to Cindy Ryals, Oregon Department of Environmental Quality Northwest Cleanup Section. December 17.

Ryals, C. 2014. Email Message from Cindy Ryals, DEQ, to Jay Bower, Landau Associates. *Re: PCB Source Evaluation Scoping.* September 29.

ATTACHMENTS

Figure 1: PCB Source Area Investigation Sampling Locations
Figure 2: PCB Source Area Investigation Area A
Figure 3: PCB Source Area A Proposed Work
Figure 4: Photo – Area A Soil Removal – Bank
Figure 5: Photo – Area A Soil Removal – Beneath Stairs
Figure 6: PCB Source Area Investigation Area B
Figure 7: PCB Source Area B Proposed Work
Figure 8: Photo – Area B Soil Characterization – Beneath West End of Transformer Platform
Figure 9: Photo – Area B Soil Characterization – Beneath East End of Transformer Platform
Figure 10: Photo – Area B Soil Characterization – Area of New Cooling Tower Construction
Figure 11: PCB Source Area Investigation Area C
Figure 12: PCB Source Area C Proposed Work
Figure 13: Photo – Area C – East Side at NE Corner Steel Building
Figure 14: Photo – Area C – North Side at NE Corner Steel Building
Figure 15: Photo – Area C – North Side Steel Building
Figure 16: PCB Source Area Investigation Area D
Figure 17: PCB Source Area D Proposed Work
Figure 18: Photo – Area D Soil Characterization – Hillside North of Titanium Building



Note

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0 200 400
Scale in Feet

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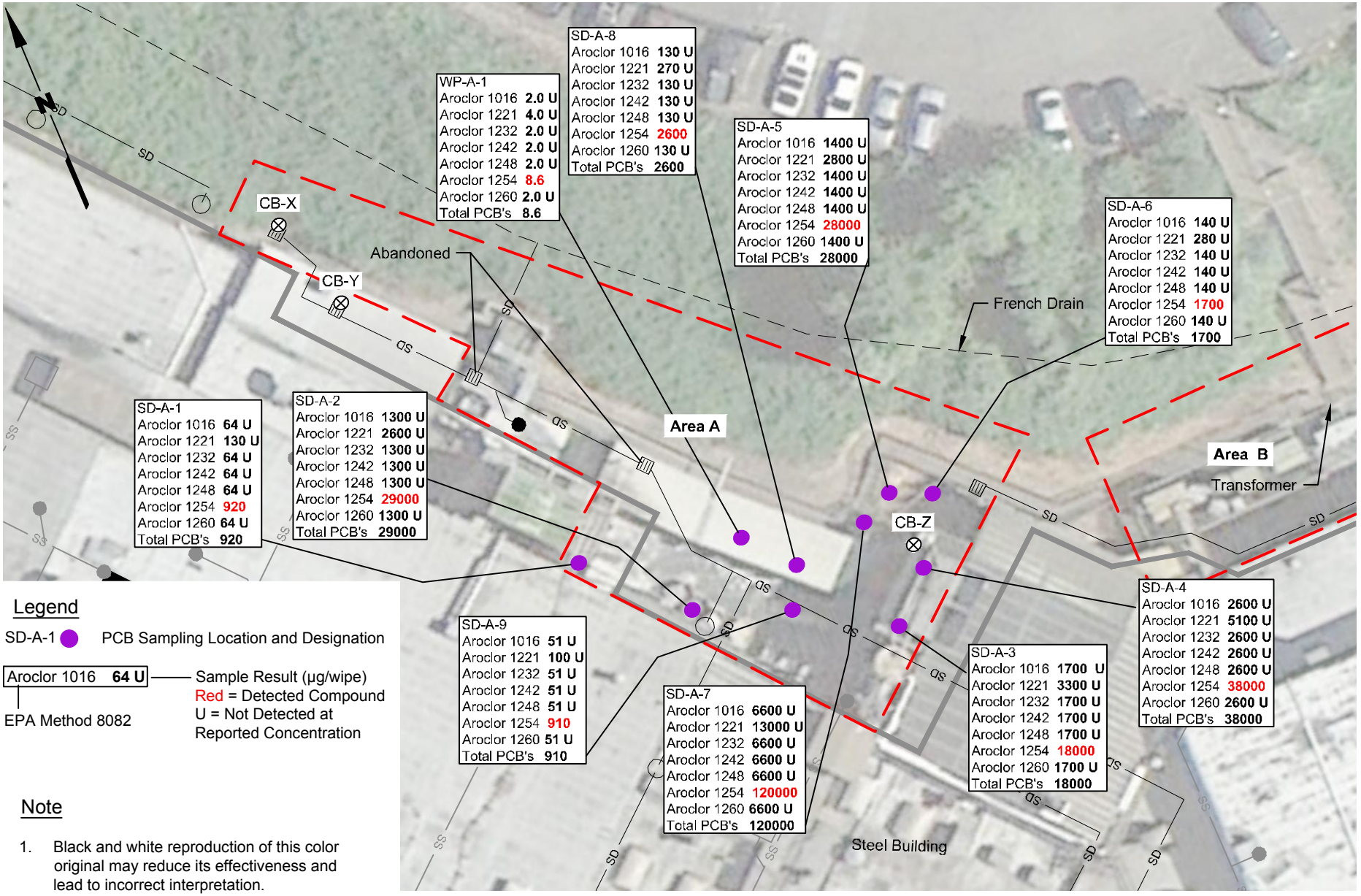
PCC Structurals Inc. Large Parts Campus Portland, Oregon	**PCB Source Area Investigation Sampling Locations**	Figure 1



Legend

SD-A-1 ● PCB Sampling Location and Designation

Aroclor 1016 **64 U** — Sample Result (µg/wipe)
Red = Detected Compound
U = Not Detected at Reported Concentration

EPA Method 8082

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0 30 60
Scale in Feet

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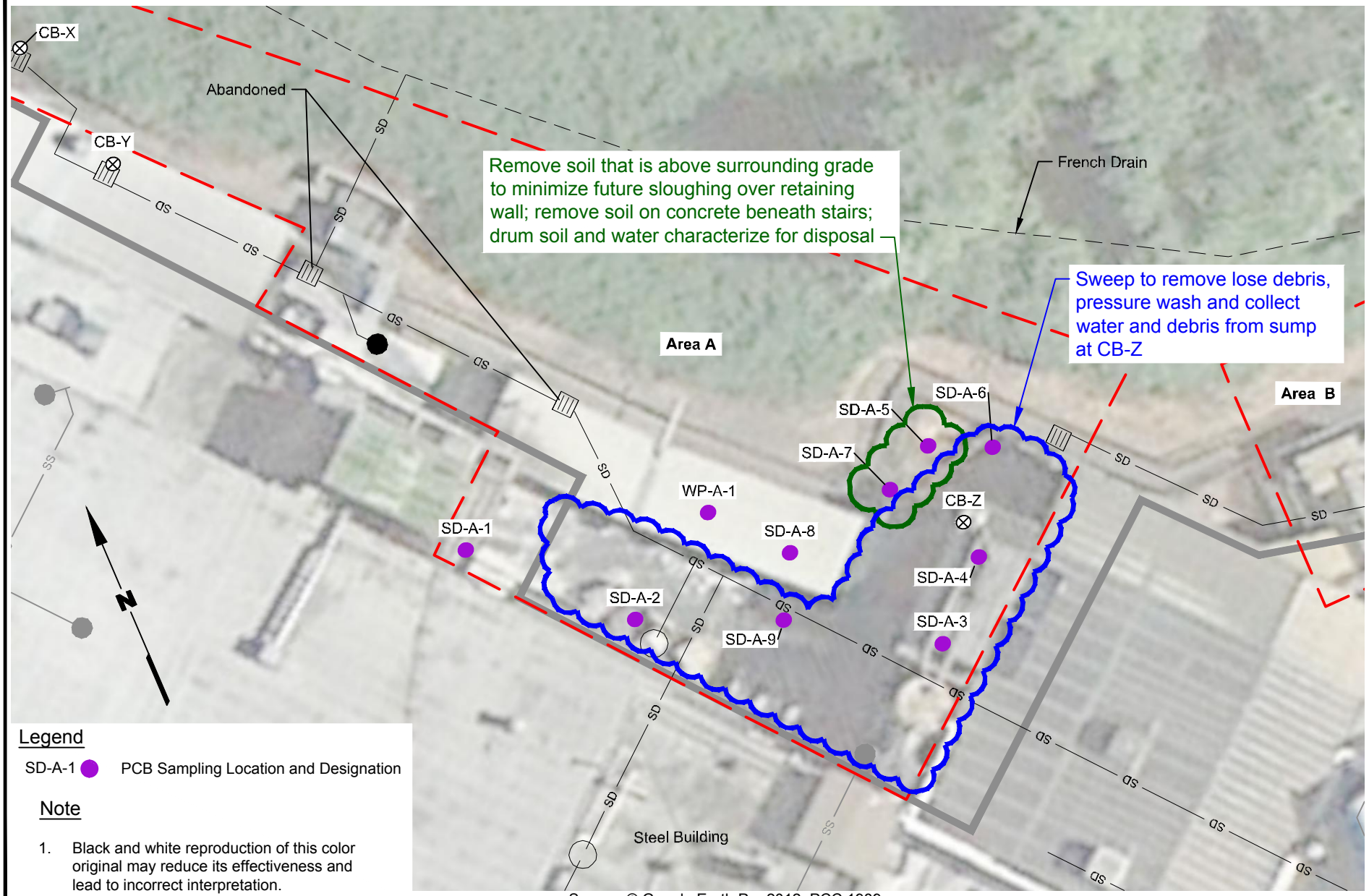
Portland, Oregon

PCB Source Area Investigation
Area A

Figure
2



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PCB Source Area A
Proposed Work

Figure
3

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Portland, Oregon

Photo - Area A
Soil Removal - Bank

Figure
4

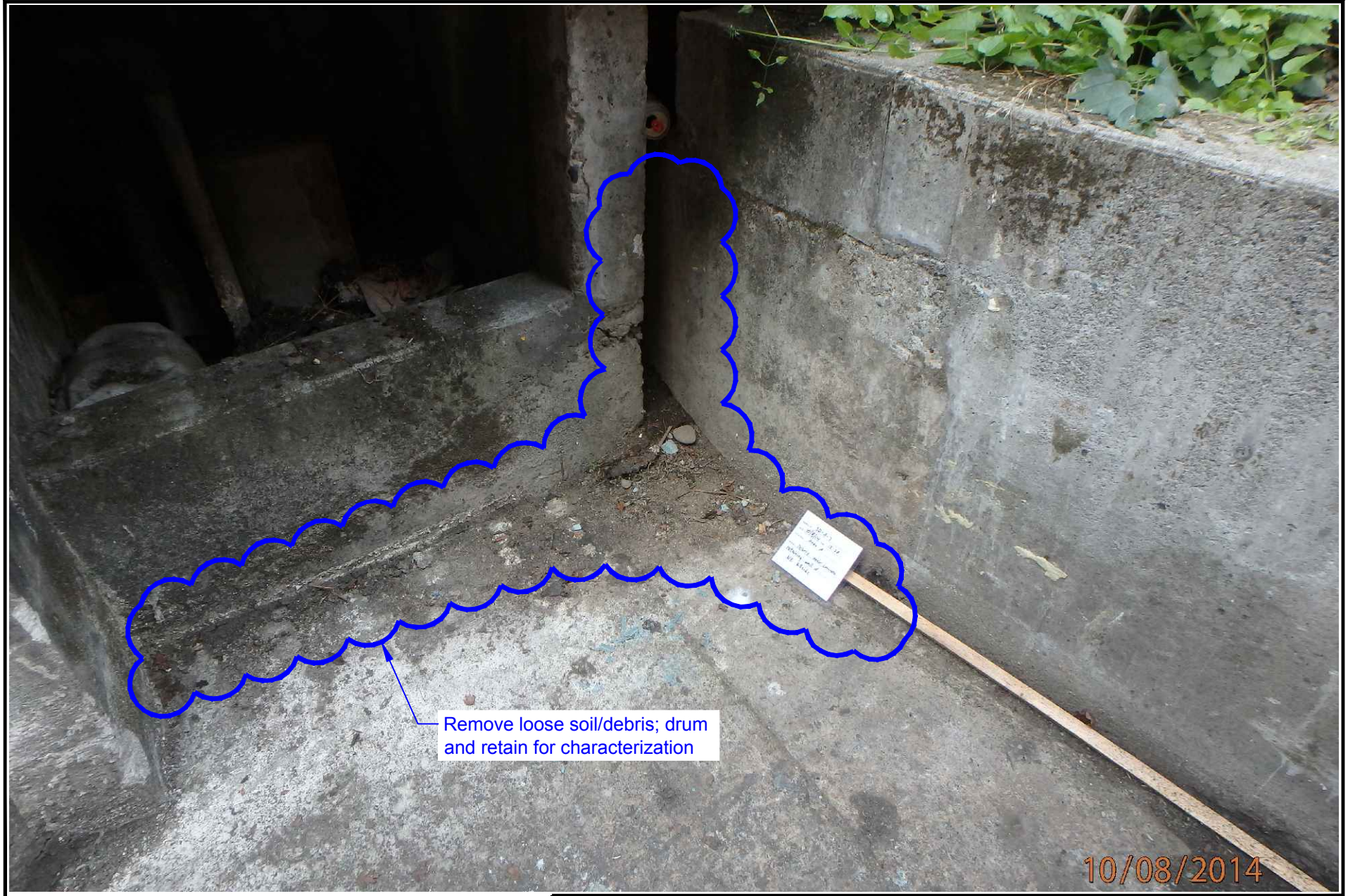

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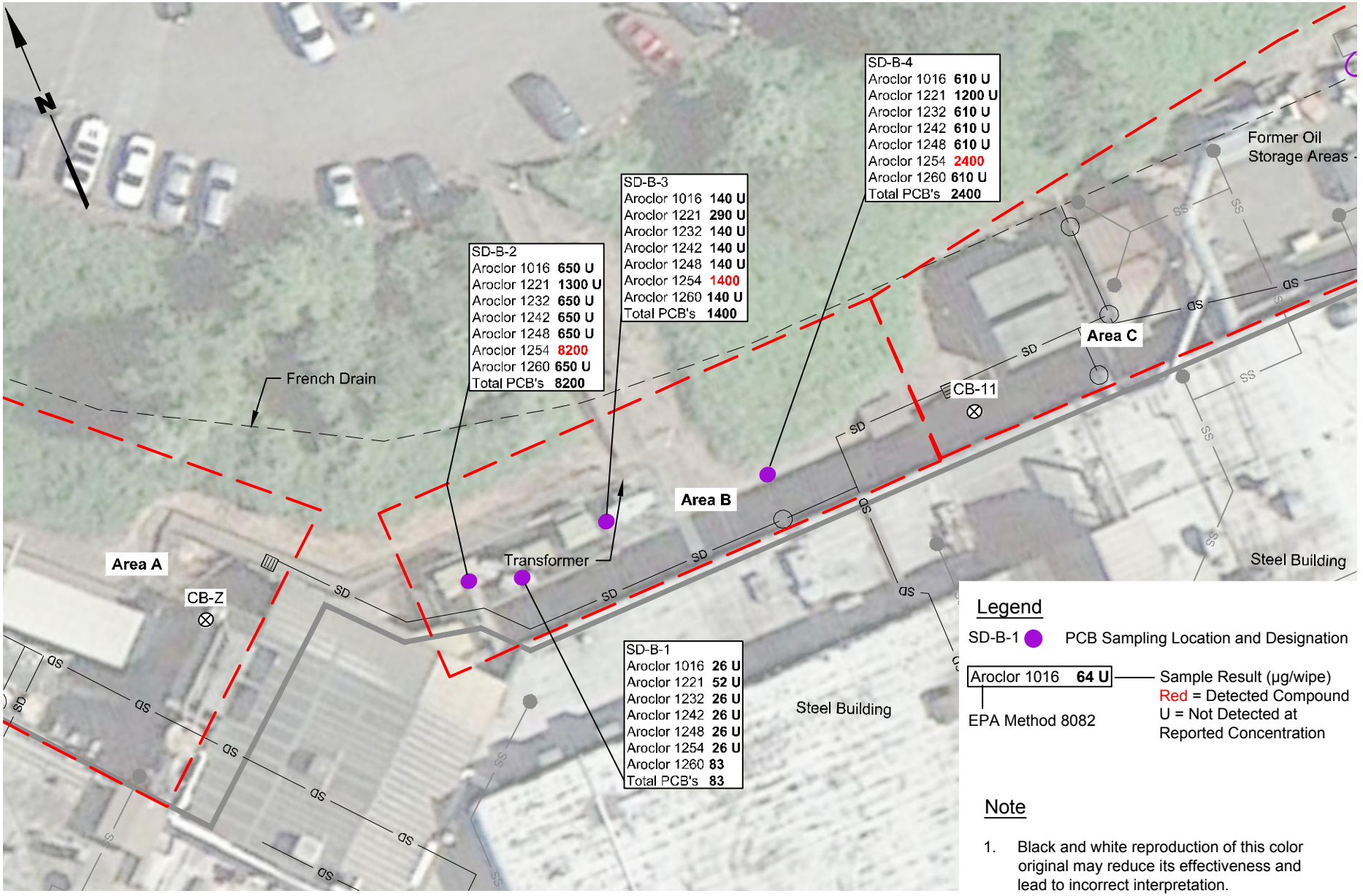
Photo - Area A
Soil Removal - Beneath Stairs

Figure
5



Legend

SD-B-1 ● PCB Sampling Location and Designation

Aroclor 1016 **64 U** — Sample Result (µg/wipe)
Red = Detected Compound
U = Not Detected at Reported Concentration

EPA Method 8082

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Scale in Feet

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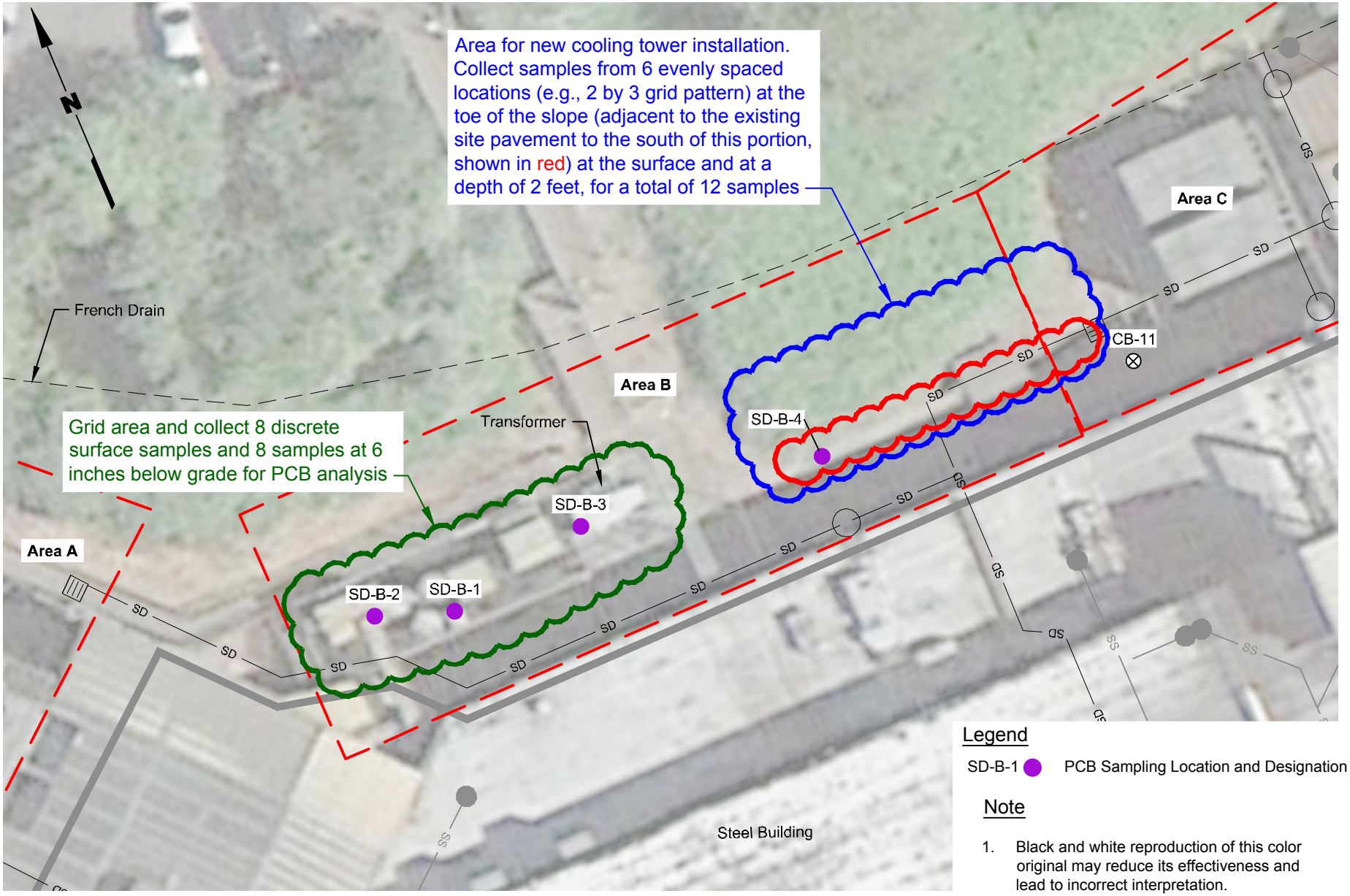
PCB Source Area Investigation Area B

Figure 6



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Scale in Feet

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PCB Source Area B
Proposed Work

Figure
7

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Photo - Area B
Soil Characterization - Beneath West End of Transformer Platform

Figure
8

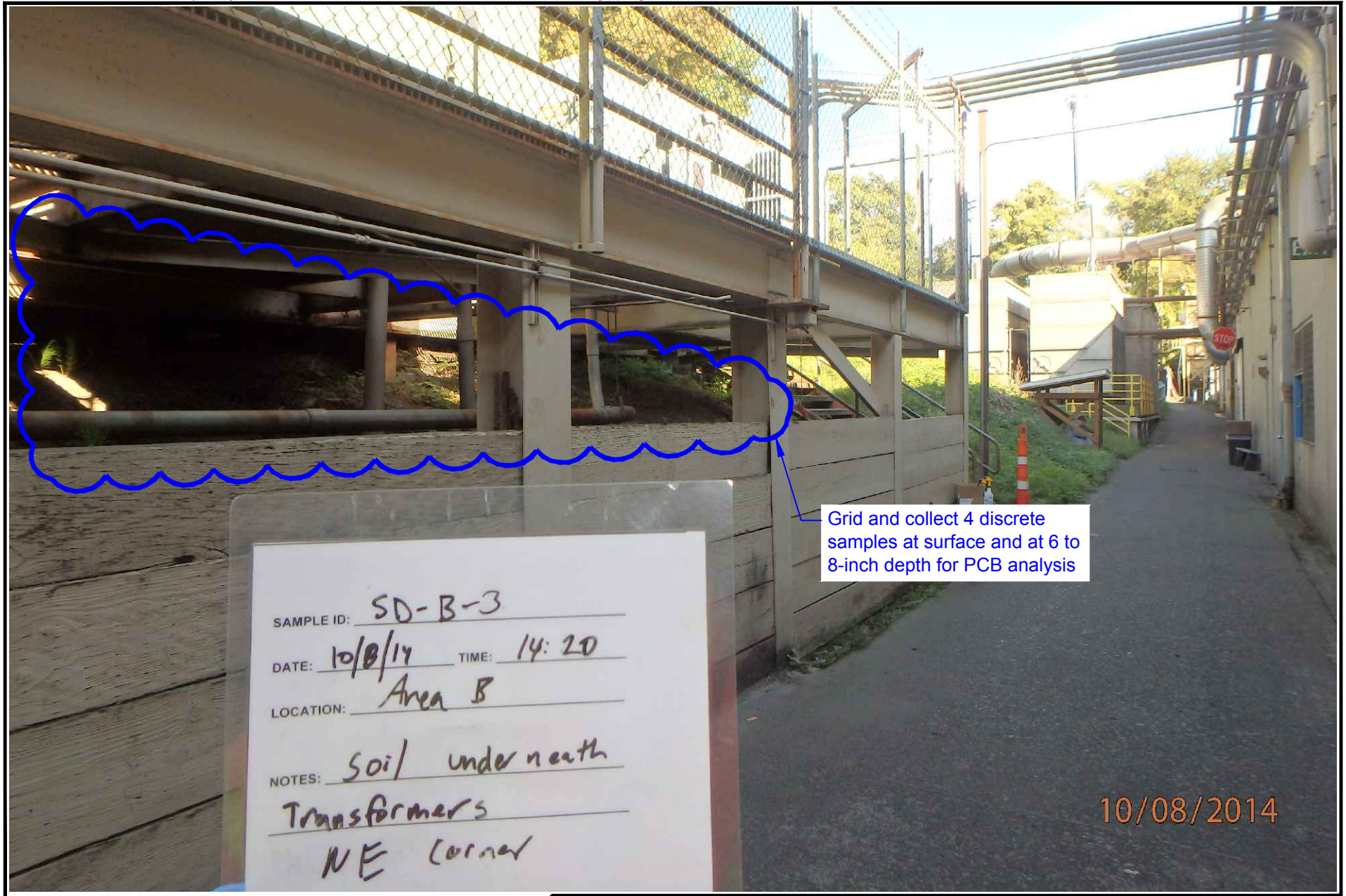

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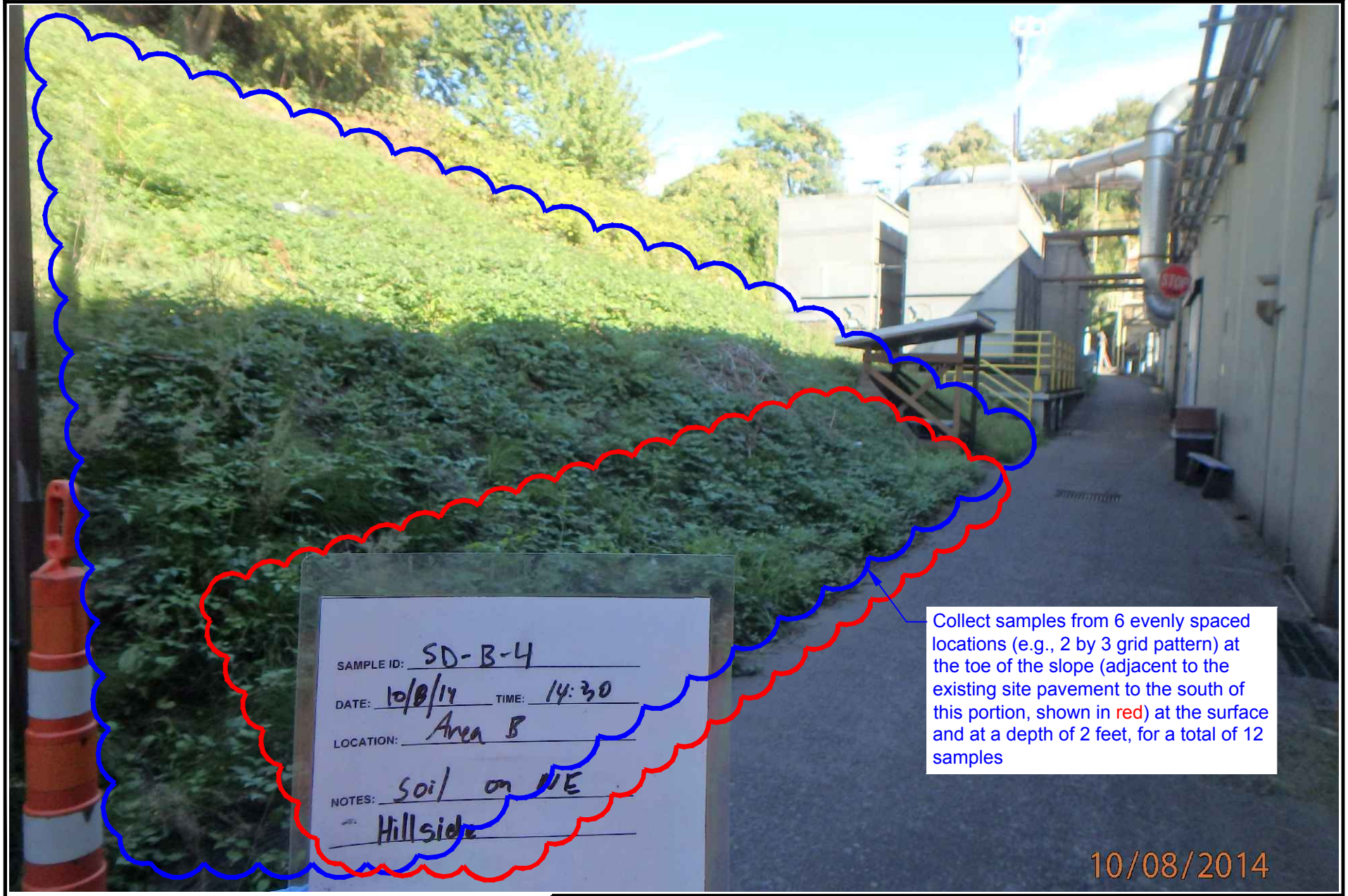
Photo - Area B
Soil Characterization - Beneath East End of Transformer Platform

Figure
9



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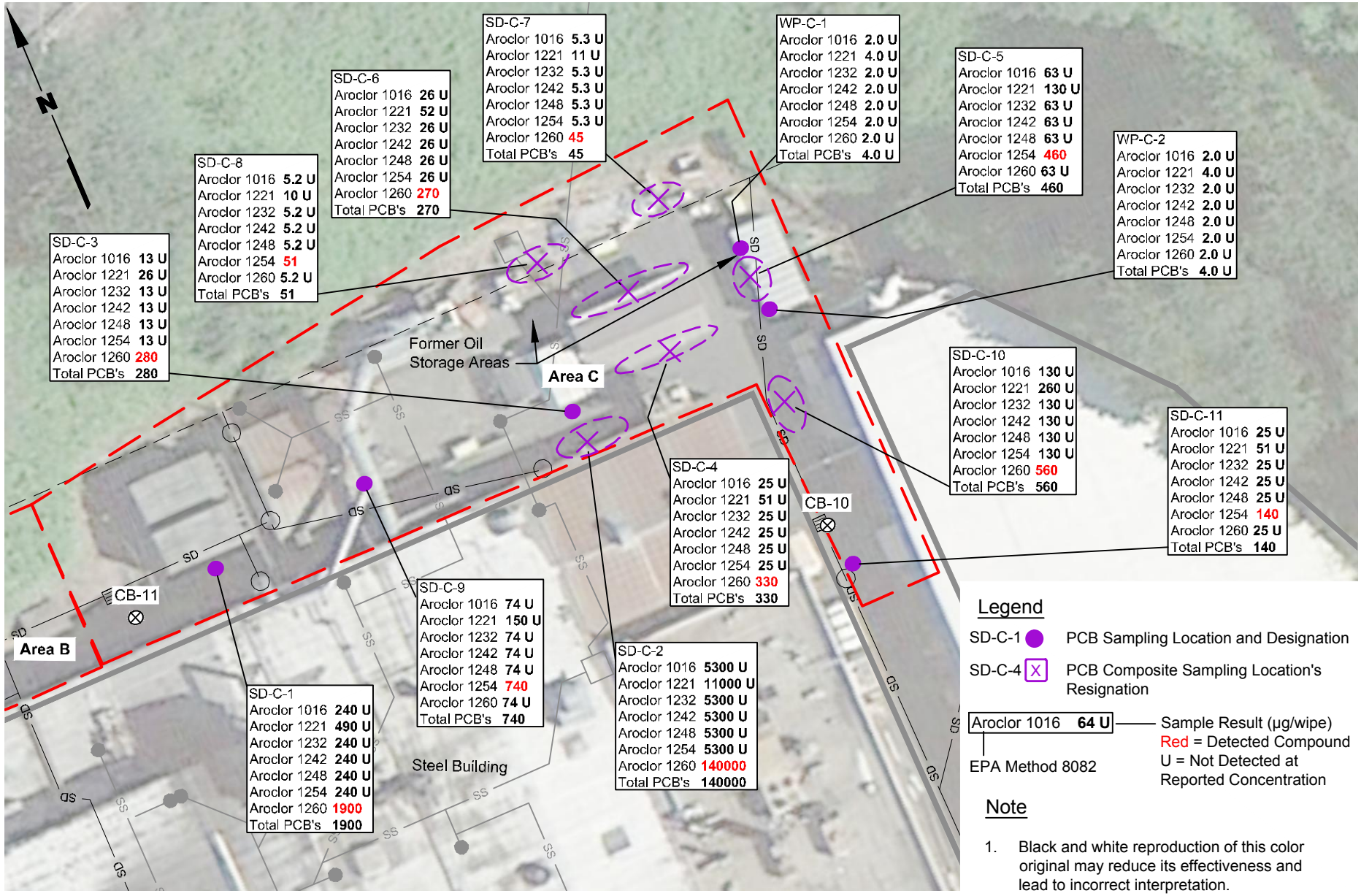
Portland, Oregon

Photo - Area B
Soil Characterization - Area of New Cooling Tower Construction

Figure
10



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Scale in Feet

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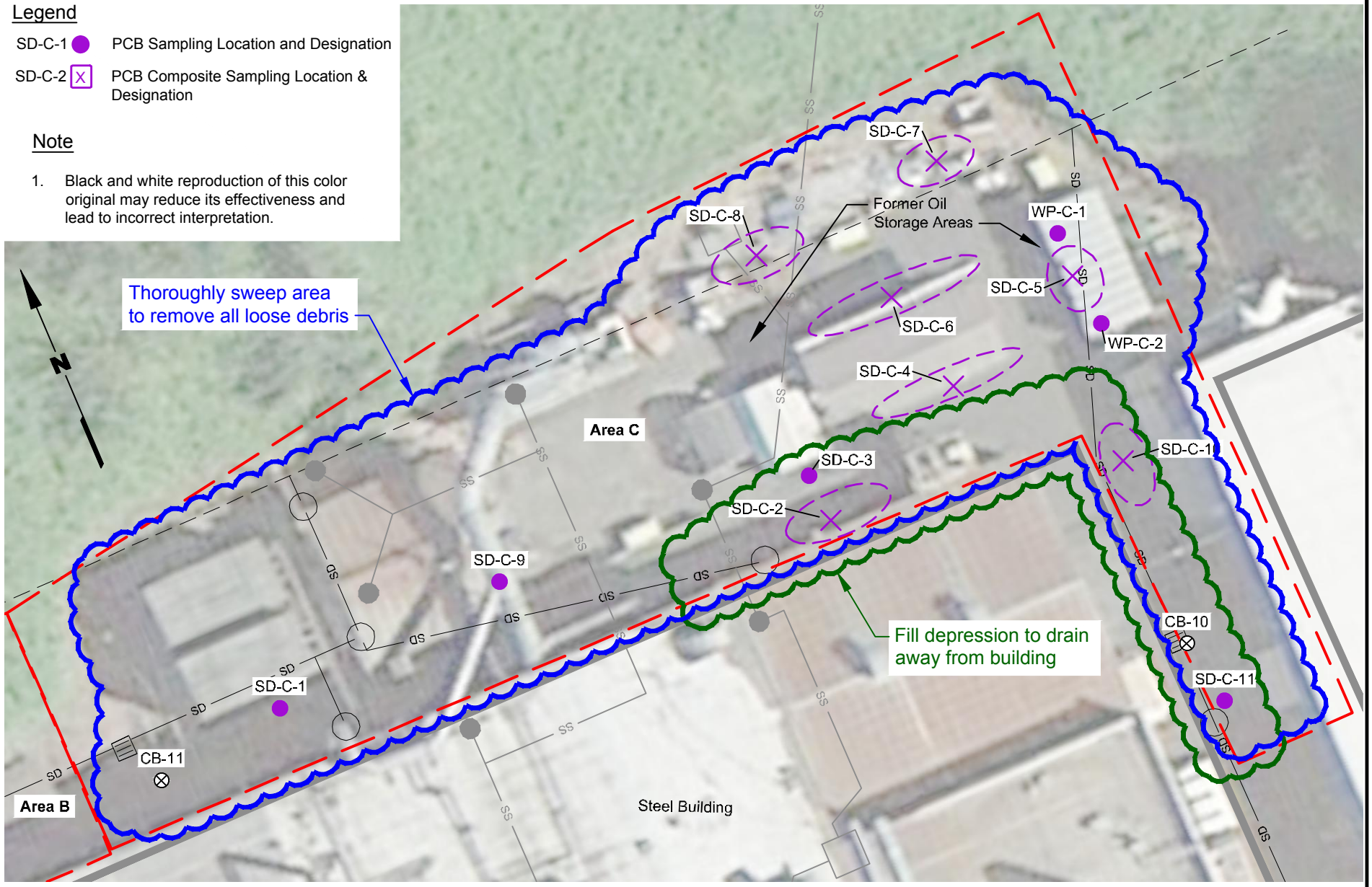
PCB Source Area Investigation
Area C

Figure
11



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Scale in Feet

PCC Structurals Inc.
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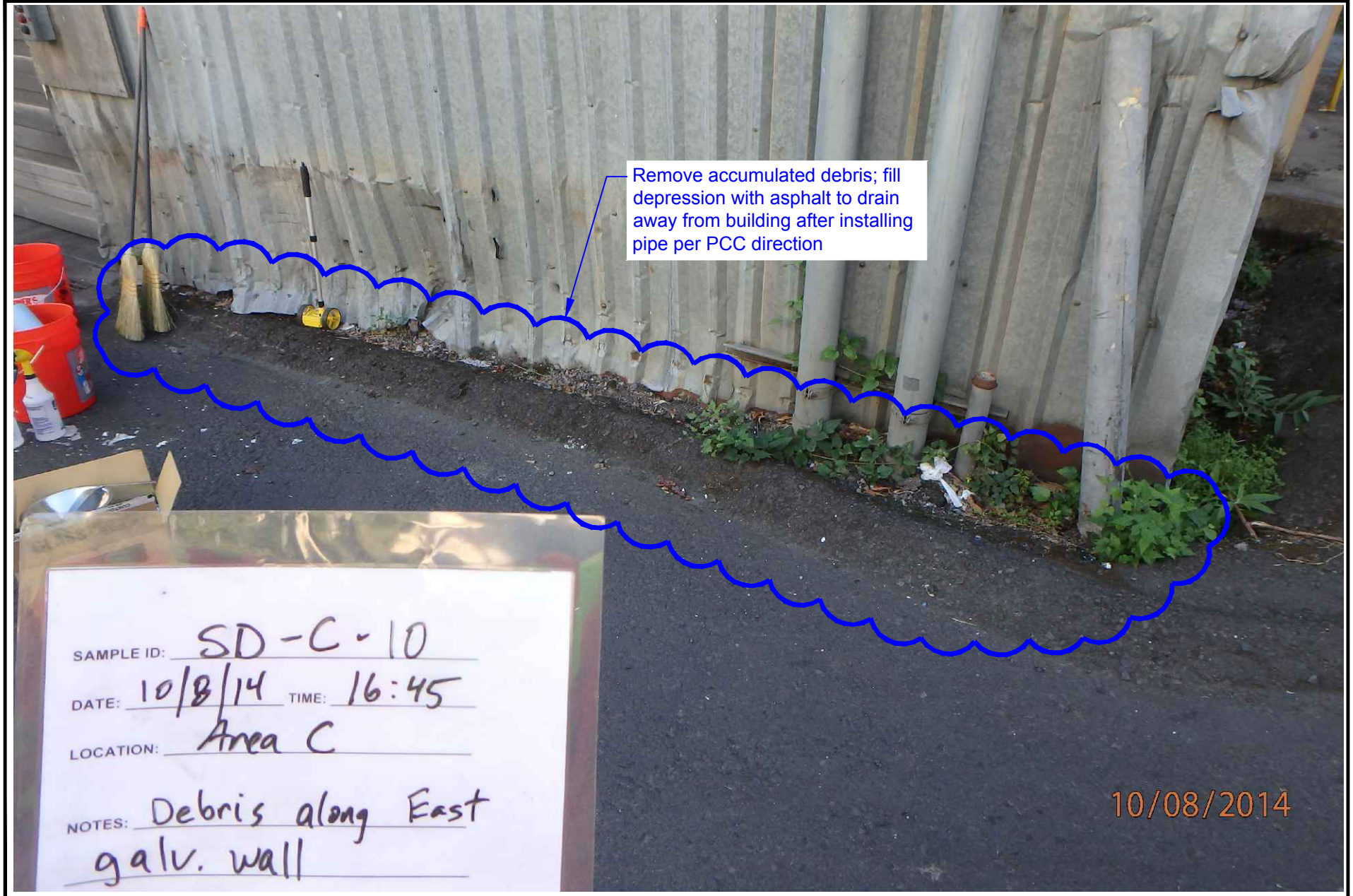
PCB Source Area C
Proposed Work

Figure
12



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PCC Structurals Inc. Large Parts Campus Portland, Oregon	**Photo - Area C East Side at NE Corner Steel Building**	Figure 13

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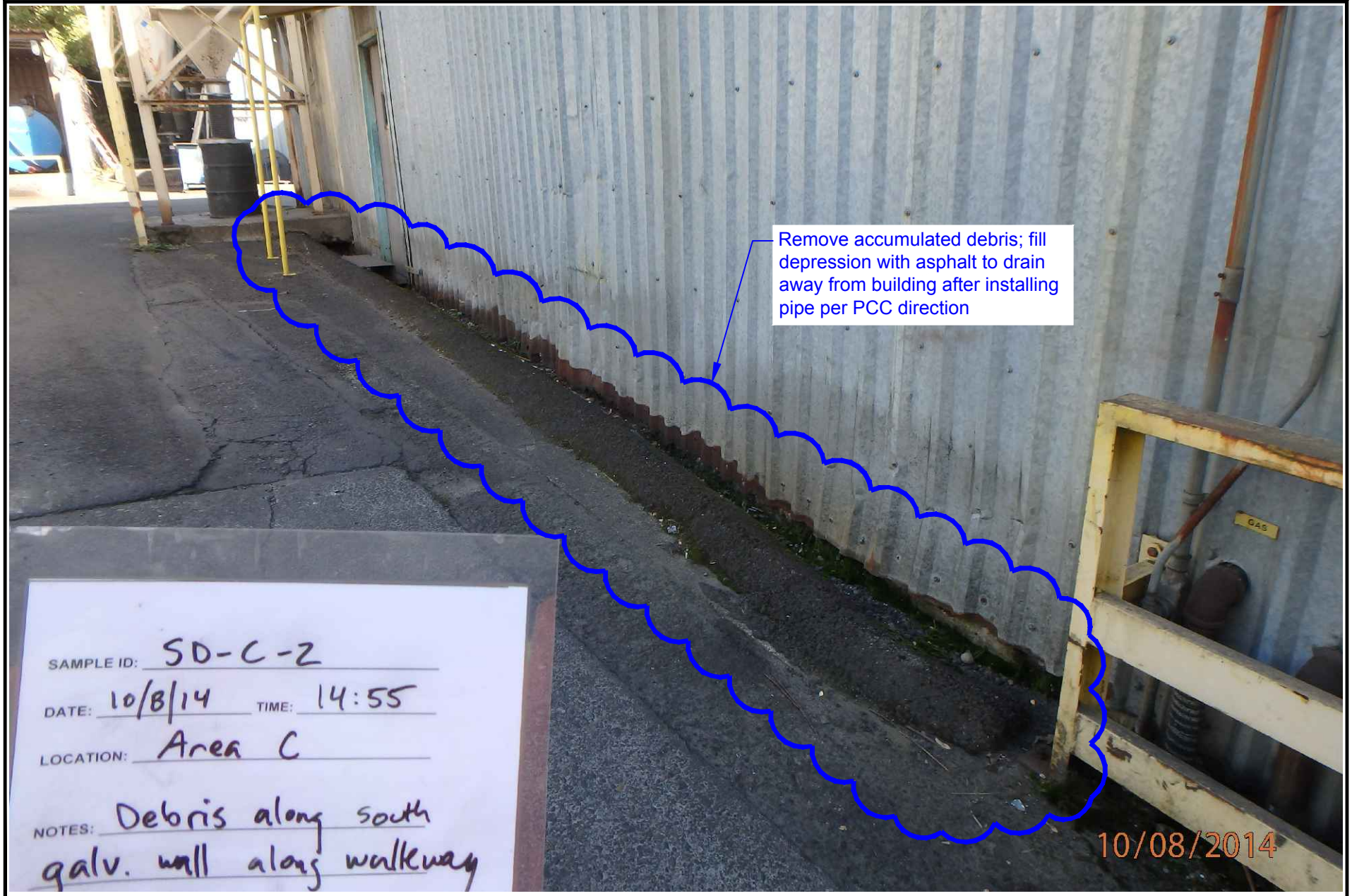
PCC Structurals Inc.
Large Parts Campus
Portland, Oregon

Photo - Area C
North Side at NE Corner
Steel Building

Figure
14



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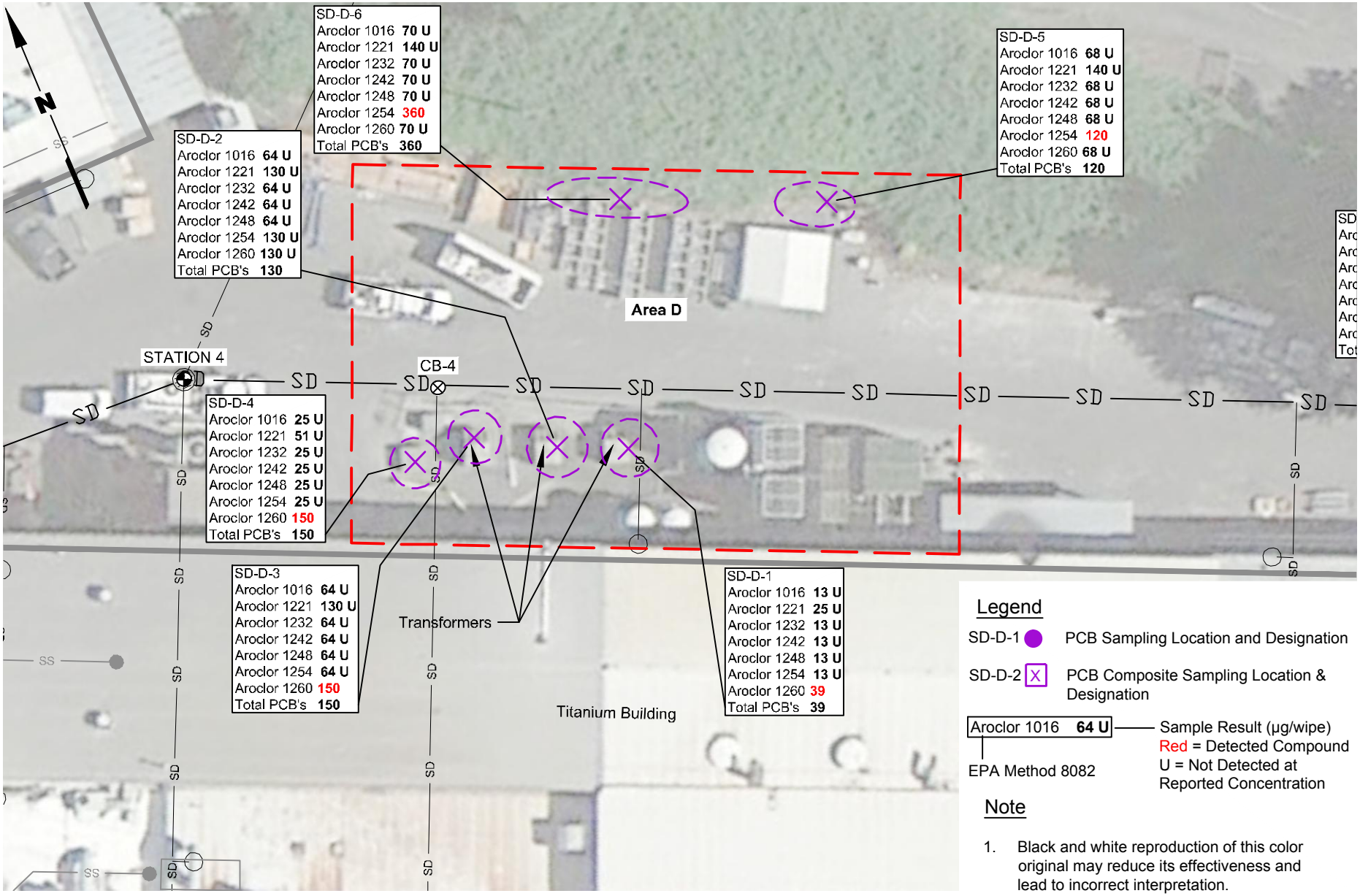
Portland, Oregon

Photo - Area C
North Side Steel Building

Figure
15



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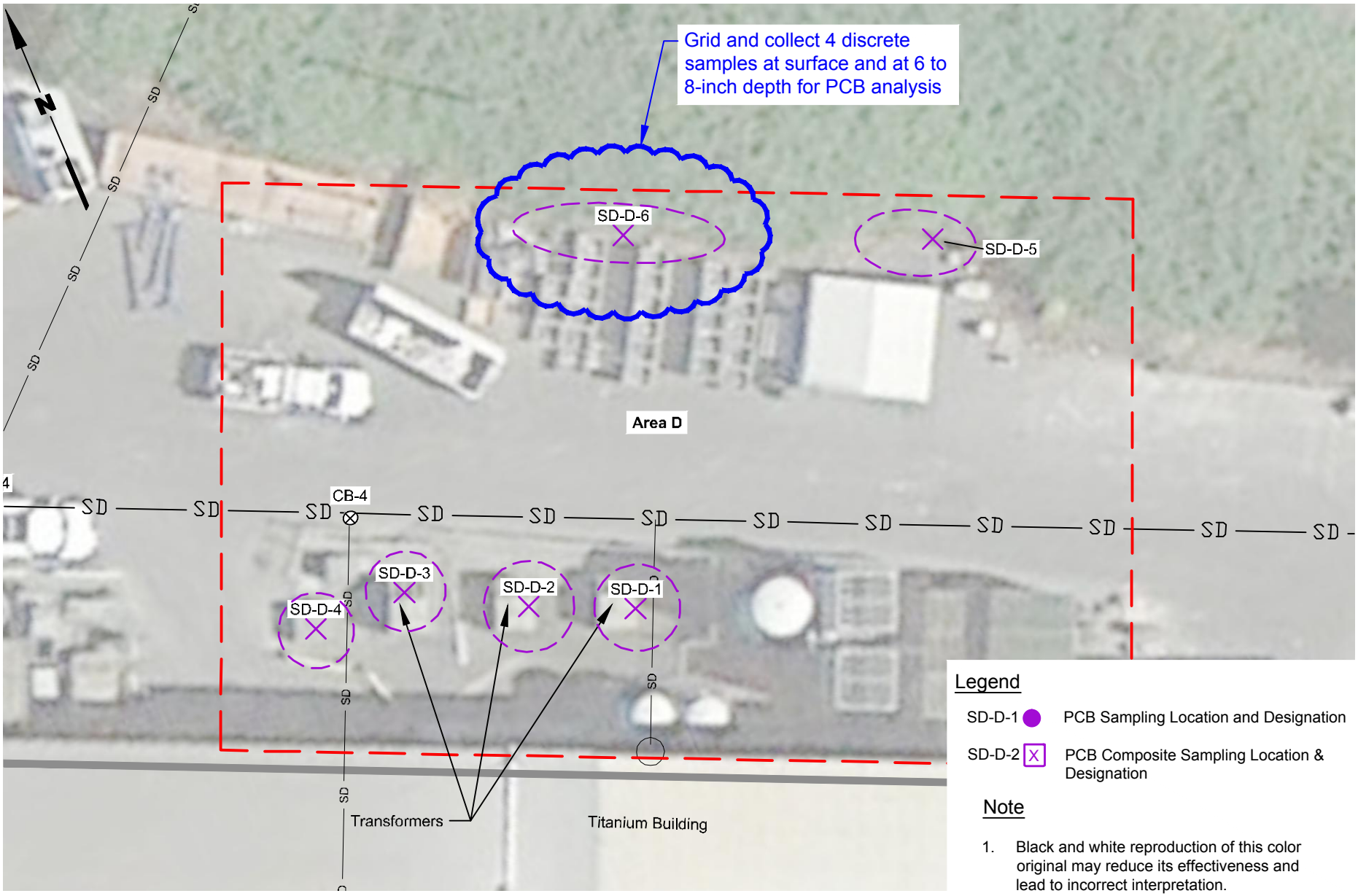
PCB Source Area Investigation
Area D

Figure
16



Legend

SD-D-1 ● PCB Sampling Location and Designation

SD-D-2 ☒ PCB Composite Sampling Location & Designation

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Scale in Feet

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PCB Source Area D
Proposed Work

Figure
17

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PCC Structurals Inc. Large Parts Campus Portland, Oregon	**Photo - Area D Soil Characterization - Hillside North of Titanium Building**	Figure 18